

ABSTRACT

The present invention is a two-phase liquid cooling system that cools a plurality of electronic components connected in parallel. A pump delivers a cooling fluid, as a liquid, to a supply manifold wherein it splits into distinct branch lines. Preferably, the branch lines feed coolant to individual spray modules. The liquid coolant removes heat from the components to be cooled through evaporation. The resulting liquid and vapor mixture exits the spray modules via return branches. Each individual return branch feeds into a return manifold wherein the manifold is sized sufficiently for the separation of liquid and vapor under the influences of gravity. In addition, a heat exchanger is located within the return manifold and provides for the condensation of vapor. The heat exchanger may also provide liquid subcooling.